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**Instruction Manual**

## FOREWORD

### Before using this product.

Please read this user manual carefully in order to ensure your safety and the proper operation of this product. Keep for future reference.

### Thank you for purchasing a CHEETAH product.

CHEETAH CL-360 flash system includes the CL-360 flash with a bare tube, external power pack, wireless manual power control, and a range of dedicated light shaping accessories. CL-360 is several times more powerful than a typical hotshoe flash with comparable size and weight. It offers studio quality light for outdoor as well as studio shooting. The CL-360 offers:

- **Studio quality light:** Greater than 300Ws, GN 80 (m ISO 100, with AD-S2 standard reflector). Approx. 28mm flash coverage with the standard reflector.
- **External battery pack:** Cheetah Lithium (lithium, 11.1V/4500mAh), 0.05-4.5s recycling and 450 full power flashes.
- **Lightweight and portable:** Even with power pack and accessories.
- **Wireless control:** Remote wireless control of flash functions and triggering.
- **Wide-range accessories:** Softbox, beauty dish, snoots, color gels, etc.
- Compatible with most bare bulb flash accessories from other brands.
- **Wide power adjustment range:** Power adjusts from full power to 1/128 in 1/3 stop increments.
- **Stable color temperature:** 5600±200K over the entire power range.
- **Additional features:** Multi flash, Focus-assist beam on/off & Hi-Speed sync triggering.

## FOR YOUR SAFETY

- ⚠ Always keep this product from rain or dampness to avoid fire or electric shock.
- ⚠ This product contains high-voltage electronic parts. Touching the high-voltage circuit inside it may result in electric shock. Do not disassemble. Should repairs become necessary, this product must be sent to an authorized maintenance center.
- ⚠ Do not fire the flash directly into the eyes (especially those of babies) within short distances.
- ⚠ Do not use the flash unit in the presence of flammable gases, chemicals and other similar materials. In certain circumstances, these materials may be sensitive to the strong light emitting from this flash unit and fire or electromagnetic interference may result.
- ⚠ Do not leave or store the flash unit if the ambient temperature reads over 122°F /50°C(e.g. in automobile). Otherwise the electronic parts may be damaged.
- ⚠ Be cautious when using the CL-360 on your camera. CL-360 is heavier than a typical shoe mount flash so a CL-360 on your camera may damage the camera hotshoe.

## CONTENTS

01	<b>Foreword</b>
01	<b>For Your Safety</b>
03	<b>Names of Parts</b>
03	• Body
03	• Control Panel
04	• Included Accessories
04	• Separately Sold Accessories
04	<b>Installing Reflector (Other Accessories)</b>
05	<b>Attaching Flash Tube</b>
05	<b>Connecting to a Power Pack</b>
05	<b>Connecting the Flash to a Camera</b>
06	<b>Replacing the off-Camera Adapter</b>
06	<b>Using the Flash</b>
06	• Power Management
07	• Flash Output
07	• M Mode
07	• S1 Mode
07	• S2 Mode
07	• RPT Mode
09	•  Hi-Speed Sync Triggering
09	• MF-Assist Beam
09	• Buzz Function
09	• Wireless Control Function
10	• Sync Triggering
10	• PC Sync Triggering
10	<b>Protection Function</b>
11	<b>Technical Data</b>
11	<b>Maintenance</b>

## Name of Parts

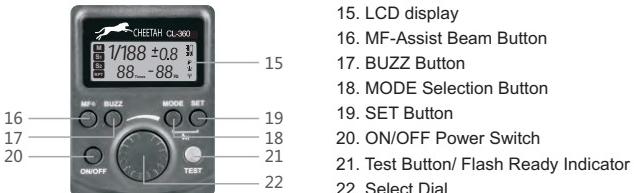
### • Body



01. Accessory Mount  
02. Accessory Locking Ring  
03. Flash Tube  
04. Tube Socket  
05. Umbrella Mounting Hole  
06. Release Button  
07. Power Socket

08. Wireless Control Port  
09. Sync Cord Jack  
10. PC Sync Socket  
11. MF-Assist Beam  
12. Light Sensor  
13. Control Panel  
14. Hotshoe Stand

### • Control Panel



 The flash unit is not powered by itself, but draws power from Cheetah Lithium Battery Pack L4500 (sold separately).

### • Included Accessories

- (1) Flash tube\*1 (2) Protecting bag\*1 (3) Mini stand\*1 (4) Off-camera adapter\*1  
(5) Reflector\*1 (6) Power cable\*1 (7) Reflector diffuser\*2 (8) Instruction manual\*1



### • Separately Sold Accessories

The product can be used in combination with the following accessories sold separately, so as to achieve best photography effects:

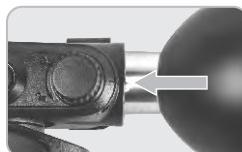
CL-Tx/Rx Remote Control, Softbox, Beauty Dish, Fold up umbrella, Snoots, Light stand, etc.



## Installing Reflector (Other Accessories)



1. Rotate Accessory Locking Ring (2) counter-clockwise until it is loosened.

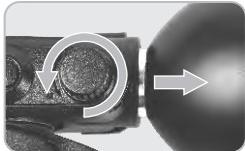


2. Insert the reflector into the Accessory Mount (1).

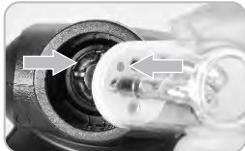


3. Rotate Accessory Locking Ring (2) clockwise to lock it up. Do not over-tighten.

## Attaching Flash Tube



1. Remove the reflector or other accessories from the flash head.

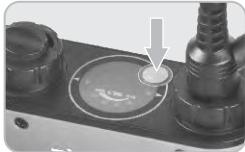


2. Match the red dot on the base of the flash tube with the red dot in the Tube Socket (4). Push the flash tube in until it is securely seated into the socket.

 **Connecting to a Power Pack**



1. Before connecting, make sure that the power pack is turned off.



3. Turn on the power pack. Normally the flash unit will be fully charged and ready to work.



1. Loosen the locking ring on the mounting foot.



2. Slip the mounting foot of the flash unit into the camera hotshoe.



3. Secure the flash unit by rotating the locking ring  
the direction of the row.



The flash unit is not powered by itself, but draws power from Cheetah Lithium Battery Pack L4500 (sold separately).

For the instructions of the power pack, see the related user manual.

## Replacing the Off-Camera Adapter

The off-camera adapter is useful when using the product as an off-camera flash. There is a 1/4" mounting hole at the bottom of the off-camera adapter. After replacing the adapter, the flash can be used mounting on CL-360 portable light boom, and almost any other light stand. To install the off-camera adapter.



1. Use a screwdriver (not included) to remove the four screws at the bottom of this product. Then take out the bottom part carefully as illustrated.



2. Install the off-camera adapter at the bottom of this product.
3. Tighten all the screws.



## Using the Flash

### 1. Power Management

ON/OFF Power Switch (20) controls the on/off of the flash unit. Turn off the power pack if the flash unit will not be used for an extended period.

### 2. Flash Output

Flash output can be varied from 1/128th power to 1/1 full power in 1/3 stop increments. To obtain a correct flash exposure, use a hand-held flash meter to determine the required flash output.

Adjust the power output by rotating Select Dial (22). The following table makes it easier to see how the stop changes in terms of f/stop when you increase or decrease the flash output:

Figures displayed when reducing flash output level→

1/1	1/1-0.3 1/2+0.7	1/1-0.7 1/2+0.3	1/2	1/2-0.3 1/4+0.7	1/2-0.7 1/4+0.3	1/4	...	OF
							...	

←Figures displayed when increasing flash output level



When "OF" is shown on the LCD display, it means no flash output and flash firing is turned off.

### 3. M Mode: Manual Mode

Press MODE Selection Button (18) to enter M mode. In this mode, you can set the flash unit onto your camera hot shoe or your trigger hot shoe for firing. Before shooting, adjust the power output of the CL-360. When the camera's shutter is pressed, the flash will fire. Slave triggering mode is not available in M mode.

### 4. S1 Mode: S1 Slave Triggering Mode

Press Mode Selection Button (18) to enter S1 mode. In this mode, the flash unit can function as a slave flash for creating multiple lighting effects. It is respectively applicable to manual flash environment.

In S1 mode, the flash unit will fire synchronously when the master flash fires, the same effect as that by the use of radio triggers.

### 5. S2 Mode: S2 Slave Triggering Mode

Press Mode Selection Button (18) to enter S2 mode. In this mode, the flash unit can function as a slave flash for creating multiple lighting effects. It is applicable when using a TTL master flash.

In S2 mode, the flash unit will ignore a single "preflash" from the master flash and will only fire in response to the second, actual flash from the master.

### 6. RPT Mode: Stroboscopic Flash

Press Mode Selection Button (18) to enter RPT mode (Multi/Stroboscopic flash). With stroboscopic flash, a rapid series of flashes is fired. It can be used to capture multiple images of a moving subject in a single photograph.

You can set the firing frequency (number of flashes per sec. expressed as Hz), the number of flashes, and the flash output.

For setting procedures, see the following:

- Press the Mode Selection Button (18) so that "RPT" is displayed.
- Press Set Button (19) to select the item to be set. The item blinks.
- Rotate Select Dial (22) to set a desired number.

### Calculating the Shutter Speed

During stroboscopic flash, the shutter remains open until the firing stops. Use the following formula to calculate the shutter speed required to capture the full sequence of flashes:

### Number of flashes / Firing frequency = Shutter speed

For example, if the number of flashes is 10 and the firing frequency is 5 Hz, the shutter speed should be at least 2 sec.

#### Note:

- Stroboscopic flash is most effective with a highly reflective subject against a dark background.
- Using a tripod, a remote switch, and an external power source is recommended.
- A flash output of 1/1 or 1/2 cannot be set for stroboscopic flash.
- Stroboscopic flash can be used with "bulb".



To avoid overheating and deteriorating the flash head, do not use stroboscopic flash more than 10 times in succession.

### Maximum Stroboscopic Flashes:

Flash Output \ Hz	1	2	3	4	5	6	7
1/1	1	1	1	1	1	1	1
1/2	1	1	1	1	1	1	1
1/4	30	2	2	2	2	2	1
1/8	50	4	2	2	2	2	2
1/16	70	70	7	4	3	3	3
1/32	80	80	80	16	8	6	5
1/64	99	99	99	99	99	99	25
1/128	99	99	99	99	99	99	99

Flash Output \ Hz	8	9	10-11	12-13	13-15	15-19	20-99
1/1	1	1	1	1	1	1	1
1/2	1	1	1	1	1	1	1
1/4	1	1	1	1	1	1	1
1/8	2	2	2	2	2	2	2
1/16	2	2	2	2	2	2	2
1/32	5	4	4	3	3	3	3
1/64	15	10	6	6	5	5	5
1/128	99	99	99	99	99	36	20

### 7. Hi-Speed Sync Triggering

To enter mode, press both Mode Selection Button (18) and Set Button (19).

Press Mode Selection Button (18) again to exit mode.

In hi-speed sync triggering mode, you can use a hi-speed sync trigger to have your flash unit synchronize with all shutter speeds of cameras(max. 1/8000 second, up to your camera). This is convenient when you want to use aperture- priority for fill-flash portraits.

#### Note:

- Hi-speed sync triggering mode is effective only when the flash unit is used together with hi-speed sync trigger, e.g., Cells II transceiver.
- Hi-speed sync triggering mode is not available when the flash unit is mounted onto the camera hotshoe.



To avoid overheating or deteriorating the flash head, the over-temperature protection function will be activated automatically after 10 continuous high-speed flashes and the recycle time becomes 10s longer.

Number of flashes that will activate over-temperature protection in high-speed sync triggering mode:

Power Output Level	Number of Flashes (Approx.)
1/1	10
1/2	15
1/4	20
1/8	30

### 8. MF-Assist Beam

Under poorly-lit or low-contrast conditions, you can press MF-Assist Beam Button (16) to turn on the MF-assist beam in order to make it easier to autofocus.

When the MF-assist beam is lit, is shown on the LCD display.

### 9. Buzz Function

The buzz function can be controlled by pressing BUZZ Button (17).

When the buzzer is turned on, is shown on the LCD display. The buzzer provides an indication that the CL-360 flash unit has fully recycled.

### 10. Wireless Control Function

• The flash unit is built in with a Wireless Control Port (8) so that you can wirelessly adjust the power level of the flash and control the on-or-off of your flash, focus assist lamp and buzzer, as well as trigger the flash.

• To control the flash wirelessly, you need a Cheetah CL series remote control set (CL-Tx and CL-Rx). Insert CL-Rx receiver into the Wireless Control Port (7) on the flash and put CL-Tx transmitter on top of the camera hot shoe. Settings made on

the CL-Tx transmitter , and CL-Rx receiver will be wirelessly communicated to the flash. Then you can press the camera shutter-release button to trigger the flash.

- For full instructions on the use of CL series remote control, see its user manual.
- When the flash unit receives wireless signals,  is shown on the LCD display.

### 11. Sync Triggering

The Sync Cord Jack (9) is a Ø3.5mm plug. Insert a trigger plug here and the flash will be fired synchronously with the camera shutter.

### 12. PC Sync Triggering

Insert one end of a PC sync cable into the PC Sync Socket (10) of the flash unit and the other end into the PC Sync Socket on the camera. The flash unit will fire when the camera's shutter-release button is pressed.

## Protection Function

### Over-Temperature Protection

- To avoid overheating and deteriorating the flash head, do not fire more than 75 continuous flashes in fast succession at 1/1 full power. After 75 continuous flashes, allow a rest time of at least 10 minutes.
- If you fire more than 75 continuous flashes and then fire more flashes in short intervals, the inner over-temperature protection function may be activated and make the recycling time about 10 to 15 seconds. If this occurs, allow a rest time of about 10 minutes, and the flash unit will return to normal.
- When the over-temperature protection is started,  is shown on the LCD display.

Number of flashes that will activate over-temperature protection:

Power Output Level	Number of Flashes (Approx.)
1/1	75
1/2	100
1/4	200
1/8	300
1/16, 1/32	400
1/64, 1/128	500

## Technical Data

Model	CL-360
Max. Power	360Ws (307.2 True WS)
Guide No. (m ISO 200)	GN:220 (10ft, ISO 200, with standard reflector) Approx. 28mm flash coverage when operating on a camera with the standard reflector
Vertical Rotation Angle	-15° to 90°
Horizontal Rotation Angle	0 to 270°
Power Supply	Cheetah Lithium power pack L4500
Full Power Flashes	450 (with Cheetah Lithium power pack L4500)
Recycle Time	Approx. 0.05-4.5s (with Cheetah Lithium power pack)
Color Temperature	5600±200K
Flash Duration	1/300s-1/10000s
Dimension	75*95*220mm (flash tube & reflector not included)
Net Weight	780g (flash tube & reflector not included)

## Maintenance

- Shut down the device immediately should abnormal operation be detected.
- Avoid sudden impacts and the lamp should be dedusted regularly.
- It is normal for the flash tube to be warm when in use. Avoid continuous flashes if unnecessary.
- Maintenance of the flash must be performed by our authorized maintenance department which can provide original accessories. The flash-tube is user-replaceable. Replacement tubes can be obtained from the manufacturer.
- This product, except consumables e.g. flash tube, is supported with a one-year warranty.
- Unauthorized service will void the warranty.
- If the product had failures or was wetted, do not use it until it is repaired by professionals.
- Disconnect the power when cleaning the unit or when changing the flashtube.
- Changes made to the specifications or designs may not be reflected in this manual.